

# PATENT ABSTRACTS OF JAPAN

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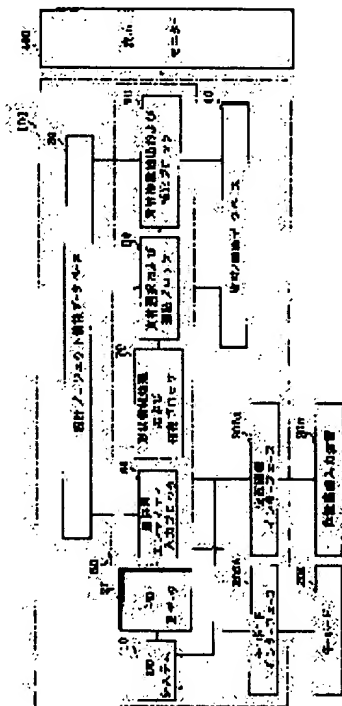
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**(54) SYSTEM AND METHOD FOR CALCULATING QUANTITY OF MATERIALS WHILE UTILIZING TWO-DIMENSIONAL CAD INTERFACE**



**(57)Abstract:**

**PROBLEM TO BE SOLVED:** To provide a system and a method for calculating the quantity of materials while utilizing a two-dimensional(2D) CAD interface for automatically calculating the entire quantity of materials and unit price by analyzing items described on a design drawing prepared by a 2D CAD program and extracting position information, form information by parts and materials information corresponding to the respective items.

**SOLUTION:** Concerning a computer terminal with a CAD system incorporated for preparing design items corresponding to various construction, civil engineering works, machines and equipment with a CAD drawing, this terminal is composed of a project information storage means storing project information containing position data, a design specification and form data, a materials/unit price storage means storing

materials information and unit price information, and a materials quantity calculating processing means for calculating the quantity of materials and the unit price of an entire object by analyzing the position information, the form information and the materials information while referring to the project information, the materials information and the unit price information.

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## CLAIMS

[Claim(s)]

[Claim 1] In the computer terminal in which the CAD system for creating the design item over various kinds of construction, engineering works, a machine, and a facility with a CAD Fig. was carried The project information storing means in which the project information containing the location data, the design specification, and configuration data to various design items is stored, The materials / unit price storing means in which the materials information and unit price information over an element on the part incorporated in the CAD Fig. indicated to the design item of various projects are stored, And the project information of said project information storing means, the materials information on said materials / unit price storing means, and unit price information are referred to. By analyzing the positional information, configuration information, and materials information over an element on the part incorporated in the CAD Fig. created by said CAD system The amount-of-resources dividing system using the 2-dimensional CAD interface characterized by consisting of amount-of-resources dividing processing means for deducing the amount of resources and the unit price of an overall object.

[Claim 2] Said amount-of-resources dividing processing means refers to the project

information of said project information storing means. The equipment which extracts \*\*\*\*\* with the name and location code to an element of stratification and the part according to \*\*, deduces positional information each ridge exception of a CAD Fig., and performs the correction and complement to an entity of a CAD Fig., The equipment which deduces the configuration information over the element of stratification and the part according to \*\* each ridge exception to which positional information was given, The equipment for choosing and connecting the compound materials code of said materials / unit price storing means to the materials contained in the element of each part, And the amount-of-resources dividing system using the 2-dimensional CAD interface according to claim 1 characterized by being constituted including the equipment for deducing the overall amount of resources and the overall unit price of materials.

[Claim 3] The height according to each object deduced with die-length data, area data, and part data in the equipment which corrects and complements said positional information dividing and entity is the amount dividing system using the 2-dimensional CAD interface according to claim 2 characterized by applying the height value which was determined beforehand, and which turned the default (Default) of four.

[Claim 4] said positional information dividing and entity be set to the equipment correct and complement, the height according to each object deduce with die length data, area data, and part data be an amount of resources dividing system using the 2-dimensional CAD interface according to claim 2 characterize by apply the height information according to unit input into arbitration by the user.

[Claim 5] the equipment which deduce said configuration information be an amount of resources dividing system using the 2-dimensional CAD interface according to claim 2 characterize by deduce the configuration information which had the closed curve on the basis of classification eclipse \*\*\*\*\* form according to each object to which the line data to the element of stratification and the part according to \*\*, and field data and part data be analyzed, and \*\*\*\*\* be gave the ridge exception incorporated in said CAD Fig.

[Claim 6] It be an amount of resources \*\*\*\*\* system using the 2-dimensional CAD interface according to claim 5 characterize by for the equipment for choose and connect said compound materials code transmit the handle value of the polyline entity of said closed curve to extended data from \*\* name sign entity data, and connect it as information whose location and configuration of an object be one.

[Claim 7] In the approach for deducing the amount of resources and the unit price to the materials incorporated in the CAD Fig. created through the CAD system The phase which deduces the positional information over the element of stratification and the part according to \*\* each ridge exception incorporated in the CAD Fig. with reference to the project information which hits said CAD Fig., and corrects and complements the entity of drawing, The phase which deduces the configuration information according to object to the element of stratification and the part according to \*\* each ridge exception deduced in said positional information, and connects the positional information and configuration information on an object, The phase which chooses the overall compound materials code to the materials contained in the element of said part, is kept shut for a compound materials code to positional information and configuration information, and is unified as a number, And the amount-of-resources dividing approach of having used the 2-dimensional CAD interface characterized by consisting of a phase of deducing the amount of resources and a unit price each part another and according to materials with

reference to said selected materials code.

[Claim 8] The phase of deducing the configuration information according to said object The phase of performing drawing for inputting the code of the field data incorporated in said CAD Fig., and calculating area data, The phase of performing drawing for inputting the code of line data and calculating a horizontal and perpendicular die length, With the phase which calculates quantity of inputting the code of part data useless, said area data and horizontal, perpendicular die-length data, and part data, according to each ridge, The amount-of-resources dividing approach of having used the 2-dimensional CAD interface according to claim 7 characterized by coming to contain the phase of deducing configuration information by generating a closed curve on the basis of the datum line according to object to the element of stratification and the part according to \*\*.

[Claim 9] The phase which connects the positional information and configuration information on said object is the amount-of-resources dividing approach of having use the 2-dimensional CAD interface according to claim 8 characterize by transmit the handle value of the polyline entity of said closed curve to extended data from \*\* name sign entity data, and come be connect for the information whose location and configuration of an object are one.

[Claim 10] If the materials coding scheme which is in charge of said registered project in construction, the phase of registering the project of the object which should be furnished and manufactured, and the coding scheme stored in the database is searched and the coding scheme does not exist The phase registered as a new coding scheme, and the phase which classifies said registered coding scheme of new registration according to each type, and chooses a materials code, The phase which copies a materials code and associated data in said registered project, And the amount-of-resources dividing approach of having used the 2-dimensional CAD interface characterized by consisting of a phase of deducing the amount of resources of a CAD entity using the materials code and associated data which were copied according to said project.

[Claim 11] The phase which creates CAD engineering drawing according to a project predetermined by computer for clients, The phase of connecting with the Webb HOSUTO server through a communication network from said computer for clients, requesting offer of the information on the construction and construction information over said created CAD engineering drawing, and transmitting corresponding engineering drawing, A configuration and positional information, [ as opposed to construction and construction information based on the materials code and unit price information which engineering drawing was received from said Webb HOSUTO server, and were stored in the database ] The phase of deducing the information over the quantity, the process, and costs according to materials, and the detailed bill to said information dividing are drawn up. The amount-of-resources dividing approach of having used the 2-dimensional CAD interface characterized by consisting of a phase transmitted to the computer side for clients from which information offer was requested through the communication network.

[Claim 12] If information offer is requested from the phase of requesting said information offer, from said computer for clients The phase of deducing the utility costs to the request to said information offer with the Webb HOSUTO server, and notifying a WEPPU site, The amount-of-resources dividing approach of having used the 2-dimensional CAD interface according to claim 11 characterized by coming further to contain the phase which carries out sanction processing of the utility costs presented by said Webb

HOSUTO server from said computer for clients.

[Claim 13] The phase of deduce said utility costs and notify a WEPPU site be the amount of resources dividing approach of having use the 2-dimensional CAD interface according to claim 11 characterize by come further to contain the phase where exchange of an alphabetic character, and voice chatting service and electronic mail data perform adjustment to utility costs by actual time amount when the adjustment demand to utility costs from said computer for clients be.

[Claim 14] The phase of deducing said construction and construction information is the amount-of-resources dividing approach of having used the 2-dimensional CAD interface according to claim 11 characterized by coming further to contain the phase of changing the font alphabetic character of said CAD Fig. into the font of the dedication other font alphabetic characters and whose transposition were made possible.

[Claim 15] The amount-of-resources dividing approach of having used the 2-dimensional CAD interface according to claim 11 characterized by request the construction to said CAD engineering drawing, and information offer of construction information, give an usable user number from said Webb HOSUTO server exclusively only to a client in the phase of transmit applicable engineering drawing, and come to perform enquiry of utility costs, and transmission and costs sanction of a CAD Fig. by the user number.

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